

CLAIMS

What is claimed is:

1. A diagnostic tool for use in diagnosing diseases, said tool comprising detection means for detecting a presence of an array of markers indicative of a specific disease.
2. The diagnostic tool according to claim 1, wherein the disease is selected from the group consisting essentially of cancer, infectious diseases, and auto-immune diseases.
3. The diagnostic tool according to claim 1, wherein said detection means is selected from the group consisting essentially of an assay, a slide, or a filter containing specific biomarkers of disease isolated by the method described herein.
4. The diagnostic tool according to claim 1, wherein said detection means is a multiple color detection system.
5. A combination of markers for diseases, said array comprising at least two markers for disease.
6. The combination of markers according to claim 5, wherein said combination is a marker for stages of cancer.
7. A method of detecting a combination of markers for diagnosing presence of a disease state or determining disease stage, said method comprising the steps of:

selectively biopanning sera obtained from a patient to obtain cDNA clones

to array for analysis; and

determining if the markers are present among cDNA clones indicative of the disease.

8. The method according to claim 7, wherein said determining step includes automatically analyzing results of said biopanning step using software.

9. The method according to claim 8, wherein said analyzing step includes constructing a classifier using data from earlier screens.

10. A kit for screening for the presence of disease markers, said kit comprising a diagnostic tool according to claim 1 and carrying means for carrying and storing said diagnostic tool.

11. Epitopes found using the method of claim 7.

12. A method of detecting disease by:

analyzing antibodies from a series of patients all having a particular disease as compared to non-disease controls;

detecting an increase of antibodies as non-disease control; and

inspecting sera from a patient of unknown disease state to match with patient antibody array pattern of detection to diagnose the specific disease of the patient.

13. A database comprising the epitopes of claim 11.

14. A method for selecting indicative epitopes indicative of disease for use in disease screening using labeled phage bearing markers of disease and antibody reactions.

15. A method for processing data in order to eliminate artifacts and normalize

the data with respect to various sources of variance.

16. A tool for interpreting results of a disease screening, said tool comprising an computer program for analyzing the results of screens.

17. A method of creating an array of markers for diagnosing presence of cancer or determining cancer stage, said method comprising the steps of:

selectively biopanning sera obtained from a patient to obtain an array for analysis; and

detecting markers which are present only in the sera of patients with a specific disease thereby creating an array for use in diagnosing disease.

18. The method according to claim 17, wherein said biopanning step includes subtractively biopanning the sera.

19. A biochip for detecting the presence of a disease markers in a patient's sera, said microchip comprising:

a biochip and detection means contained within the microchip for detecting disease markers in a patient's sera.